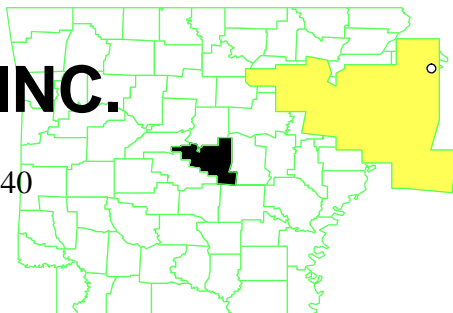


# VERTAC, INC.

ARKANSAS

EPA ID# ARD000023440

Site ID: 0600023



EPA REGION 6  
CONGRESSIONAL  
DISTRICT 02  
Pulaski County

Updated: May 2, 2005  
Next update: September,  
2005

## Site Description

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- Location:**
- 15 miles northeast of Little Rock, Pulaski County
  - On Marshall Road near western edge of City of Jacksonville, Arkansas
- Population:**
- About 30,000 residents in the City of Jacksonville.
- Setting:**
- The nearest residences are immediately adjacent to the plant property to the South and East. The Little Rock Air Force Base is located immediately north of the plant, and a light industrial complex is located to the West.
  - The site is zoned commercial/industrial.
- Hydrology:**
- The contaminated aquifer at the site is the fractured Atoka Formation. This aquifer is not used as a public water supply in the area due to its limited yield, and is not used for domestic purposes in the immediate vicinity of the site.

## Wastes and Volumes

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### Principal Pollutants:

- 2,3,7,8-TCDD (dioxin)- as high as 2,800 parts per billion (ppb) in soils; as high as 37 parts per million (ppm) in drummed wastes
- 2,4-D
- 2,4,5-T
- Chlorinated benzene
- Chlorinated phenols
- Herbicide production wastes

### Volume:

- 28,440 drums of herbicide production waste.
- Several thousand cubic yards of liquid and solid wastes.
- Landfills and burial areas with several thousand cubic yards of various wastes.
- Several thousand cubic yards of contaminated buildings and equipment.
- Approximately 20,000 cubic yards of contaminated soils and sediments.
- Approximately 1,000 tons of highly contaminated shredded trash and pallets.
- Approximately 1,120 tons of TCB (tetrachlorobenzene) contaminated soils.

## Site Assessment and Ranking

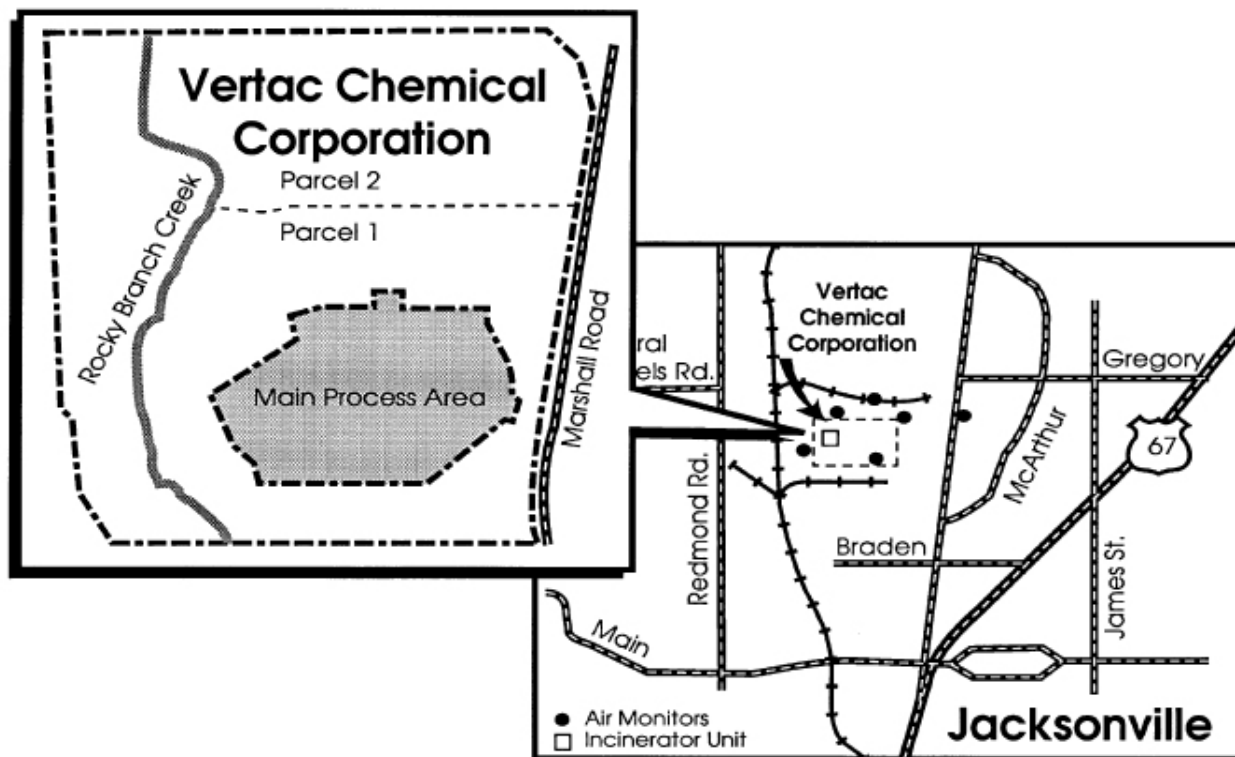
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### NPL LISTING HISTORY

Site HRS Score: 65.46  
Proposed Date: 12/30/82  
Final Date: 9/08/83  
NPL Update: Original NPL

## Site Map and Diagram

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## The Remediation Process

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### Site History:

- Reasor Hill Company produced 2,4,5-T beginning in 1948 (2,3,7,8-TCDD is a by-product).
- Hercules purchased the plant in 1961, produced Agent Orange, a 2,4,-D and 2,4,5-T mixture.
- Transvaal leased the plant from Hercules during 1971-76, produced 2,4-D; 2,4,5-T and 2,4,5-TP.
- Vertac organized in 1976 and in 1979 suspended production of 2,4,5-T and 2,4,5-TP (silvex).
- Vertac ceased all manufacturing operations May 1986.
- In December 1986, Potentially Responsible Party (PRP) began removal activities with EPA oversight.
- In January 1987, PRP filed bankruptcy and EPA took the lead for removal activities.

- Removal activities included: overpacking and staging leaking drums, construction and repair of storage buildings to contain drums, pump and treat liquid waste, construction of road for easier site access, fence repair, erosion control.
- Simultaneous removal actions conducted in off-site developed and undeveloped residential areas.
- PRP completed off-site removal in June 1989.
- Incineration of the drummed 2,4,D waste (D-waste) was completed in September 1994. The off-site shipment of 3,100 drums of 2,4,5,T waste (T-waste) to the APTUS facility for incineration was completed on March 29, 1996.
- Off-site disposal of 33,972 drums of incinerator salt residual was completed at the Highway 36 Land Development Co. (Subtitle C facility) in Deer Trail, CO on December 17, 1996.
- The Remedial Investigation/Feasibility Study (RI/FS) for the Soils Operable Unit (OU2) was completed in April 1995, and the RI/FS was completed for the Ground Water Operable Unit (OU3) in September 1995.
- The design and planning necessary for implementation of the OU2 and OU3 remedies, as well as the dismantlement of the IF was performed in early 1997.
- Implementation of the remedies for OU2 and OU3, and Incinerator Facility dismantlement, as well as all other construction activities to conclude overall site cleanup, commenced in July, 1997 and were completed in May 1998. All site remedial construction activities were declared complete on September 1, 1998.

#### **Health Considerations:**

- As a result of inadequate waste disposal methods and production controls, soils and ground water have been contaminated by herbicides, chlorinated phenols, and dioxins. Potential risks included direct contact with and ingestion of contaminated soils.

#### **Other Environmental Risks:**

- Fish in the Rocky Branch Creek and Bayou Meto contained dioxin above Food & Drug Administration alert levels for dioxin. A fishing ban was in effect. Recently, the fishing ban has been lifted for Bayou Meto below Highway 13 (farther than 25 miles from the Vertac site).

#### **Records of Decision (RODs)**

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Signed: September 27, 1990 (Off-site Areas)  
 Signed: June 30, 1993 On-site OU1 (Above Ground)  
 Signed: September 17, 1996 OU2 (Soils)  
 Signed: September 17, 1996 OU3 (Ground water)

**Offsite Areas ROD components: (All components completed in mid 1997)**

- Dewater and Cap aeration basin and cap sludge drying beds in the sewage treatment plant. (Completed November 1995)
- On-site landfilling of digester sludge, and sewage collection line sediments. (Materials have been consolidated on-site, and were landfilled in mid 1997)
- Excavation of contaminated Rocky Branch Creek flood plain soils/sediments. (Excavation and on-site disposal were completed in mid 1997)
- Remove dioxin contaminated sediments from the Rocky Branch sewer interceptor, slipline, and landfill the contaminated sediments. (the removed sediments were temporarily stored on-site, and were placed in the on-site landfill in mid 1997)
- Excavation of off-site residential soils. (Excavation of the contaminated soil was completed in 1988, the materials were stored on-site in “supersacks” then disposed on-site in the Summer 1997)

**On-site OU1 (Above Ground) ROD components: (All components completed in mid 1997)**

- Demolish the on-site buildings and equipment and consolidate the debris in an on-site hazardous waste landfill.
- Off-site incineration of transformer PCB oils.
- Off-site recycle/reuse of decontaminated process equipment (such as tanks, structural steel, pumps, etc.), to the maximum extent practicable.
- Off-site incineration of shredded trash and pallets, and the wastes in the process vessels.

**OU2 (Soils, Foundations, and Underground Utilities) ROD components: (All components completed in the Summer and Fall 1997)**

- The excavation of dioxin contaminated soils at or above the action level of 5 parts per billion.
- The excavation and off-site incineration of crystalline tetrachlorobenzene (TCB) and TCB contaminated soils at or above the action level of 500 parts per million.
- The disposal (in the on-site landfill) of approximately 2,770 cubic yards of dioxin contaminated soils excavated in 1990 from adjacent residential areas.
- The disposal (in the on-site landfill) of approximately 4,100 cubic yards of dioxin contaminated soils from the Rocky Branch Creek flood plain in conjunction with the Off Site Areas ROD.

**OU3 (Ground Water) ROD components: (All wells were installed in the Winter 1997/1998, and groundwater treatment and monitoring will continue indefinitely)**

- Install ground water extraction wells to eliminate the eastward component of ground water flow and retract the eastern extension of the contamination plume.
- Continue to utilize an existing French drain to restrict westward movement of the contamination plume. (The French drain installation was completed in 1986 as part of the “Vertac Remedy” and will continue to be utilized perpetually to prevent westward off-site migration of contaminated groundwater and oily leachate from the on-site unlined burial areas)
- Impose institutional controls (deed restrictions) to prohibit water supply wells in the area of the site.

## Community Involvement

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- Community Involvement Plan: Developed 1983
- Open houses and workshops: 07/88, 09/88, 02/93, 4/93, 8/93, 12/93, 8/94, 12/94, 5/95, 3/96, 6/96, 7/96, 9/96, 1/97, 6/97, 10/97.
- Original Proposed Plan Fact Sheet and Public Meeting: 06/86 & 07/90 (Off-site), 4/93 (On-site)
- Original ROD Fact Sheet: 01/90 Incineration Support, 10/90 Off-site Areas, 08/93 On-site Above Ground Media (OU1), 11/96 Groundwater (OU3), 12/96 Soils (OU2).
- Milestone Fact Sheets: 11/86, 09/87, 03/88, 04/91, 8/93 (EPA take-over from State), 12/93, 12/94
- Citizens on site mailing list: 266
- Constituency Interest:
  - Highly organized community interest (PACCE, FUSE, ACCA, ECA, AA, NAACP, Greenpeace, JPWP, AARF). Elected officials at all levels are keenly aware of and interested in this site.
  - Removal action, incineration remedy, original Technical Assistance Grant annulment, and multiple operable units have kept community interest at high levels.
  - Response to PACCE
  - Transportation of contaminants to off-site facility
- Site Repository: Jacksonville City Hall

## Technical Assistance Grant

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- Original Availability Notice: 04/88, 01/92
- Letters of Intent Received:
  - 1) Jacksonville People With Pride Cleanup Coalition (JPWPCUC)
  - 2) Vertac Area Citizens Group
  - 3) Friends United for a Safe Environment
  - 4) People Against Chemically Contaminated Environment
- Final Application received: 02/22/89
- Grant Award: 05/18/89 to JPWPCUC
- Budget Period: 04/05/93-04/04/95
- Current Status: Grant award to JPWPCUC was annulled 12/91 due to apparent conflict of interest.
- Availability re-advertised 01/92
- Letters of Intent received:
  - 1) Jacksonville Superfund Oversight Committee
  - 2) People Against a Chemically Contaminated Environment
  - 3) Jacksonville Superfund Cleanup Coalition
  - 4) Concerned Citizens Coalition (CCC)
- Final Application Received: 02/24/93
- Grant Award: 04/05/93 to CCC
- Budget Period: 04/05/93-04/04/96
- Grantee: Concerned Citizens Coalition, Inc. (CCC)
  - Bob Johnson, President
  - Jacksonville, AR
- Technical Advisor selected 9/94, ECO, Inc., contract signed 12/94, terminated 12/95.

- Second Technical Advisor, Carlisle Consulting, Inc., selected 03/96, document reviews and input to remedy selection resumed.
- Current Status: Significant effort and outreach by EPA resulted in consolidation of competing groups onto the CCC Board of Directors. All funds disbursed and grant closed out.
  - Another TAG awarded to CCC
  - Grant Award: 04/05/96 to CCC
  - Budget Period: 04/05/96-04/04/99
  - Tag expired 04/04/99.

## Contacts

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- **Remedial Project Manager (EPA):** Philip Allen, 214-665-8516, Mail Code 6SF-AP  
EPA Region 6 Regional Public Liaison: Arnold Ondarza, 303-312-6777
- **State Contact:** Mike Arjmandi (501) 682-0852 and Jerry Neill (501) 682-0846 (ADPC&E)
- **Community Involvement Coord. (EPA):** Donn Walters, 214/665-6483, Mail Code: 6SF-PO
- **Attorney (EPA):** James L. Turner, 214/665-3159, Mail Code: 6RC-S
- **State Coordinator (EPA):** Karen Bond, 214/665-6682, Mail Code: 6SF-AP
- **Prime Contractors:** US Army Corps of Engineers (EPA); and ERM, Inc. (PRP)

## Enforcement

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- Litigation was filed under Section 7003 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6973, against Vertac Chemical Company (Vertac) and Hercules, Incorporated (Hercules) - 1980.
- EPA and the State of Arkansas entered into a Consent Decree with Vertac and Hercules for developing a remedial plan for certain on-site and off-site areas - January 1982.
- After EPA invoked dispute resolution and had a hearing on the remedy, the Court ordered the implementation of the "Vertac Remedy" - July 1984.
- Vertac established an Environmental Trust Fund as part of a bankruptcy agreement - July 1986. Vertac placed \$6,700,000 in this fund to be used to remediate portions of the plant. A \$4,000,000 letter of credit was later added to this Trust Fund also for the purpose of future site remediation. Both EPA and the State of Arkansas had access to this fund which was later used to incinerate the 28,440 drums of waste left at the site by Vertac.
- EPA issued a Unilateral Administrative Order (UAO) to all PRP's to require posting of warning signs and the fencing of portions of the West Wastewater Treatment Plant and certain areas of Rocky Branch Creek - August 1986.
- EPA issued a notice letter to Vertac Chemical Corp. that required Vertac Chemical Corp. to continue operation and maintenance of the leachate collection and treatment system which was established around old on-site waste burial areas - January 1987.
- EPA signed an Administrative Order on Consent (AOC) pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, with Hercules to allow Hercules to implement the fine grid sampling investigation for specific off-site areas - June 1988.
- EPA signed an AOC with Hercules that required Hercules to remove approximately 3,000 cubic yards of dioxin-contaminated soil from residential yards near the facility - September 1988.
- EPA signed an AOC with Hercules that required Hercules to conduct the on-site Remedial Investigation/Feasibility Study (RI/FS) - July 1989.
- EPA sent CERCLA Section 104(e) information request letters to several companies which had

been involved in business deals with the Vertac and Hercules, including "tolling agreements" - March 1990.

- EPA sent General Notice letters to the PRP's regarding the proposed off-site remedial plan and other site actions - July 1990.

- The U.S. District Court for the Eastern District of Arkansas entered a Consent Decree between the United States and "Phoenix Parties", which are companies related to the Vertac Chemical Corp., and which carried on the remaining business of Vertac under their names after Vertac abandoned the site - February 1991. Hercules appealed the entry of the Consent Decree to the Eighth Circuit Court of Appeals, which upheld the entry of the Consent Decree in April 1992. Under the terms of the Consent Decree, the Phoenix Parties have contributed \$1,840,000 to a RCRA Closure Trust Fund, and will contribute a percentage of pre-tax profits for 12 years, in return for release of liability.

- Hercules, Inc., had opposed the United States' efforts to select various CERCLA remedies at Vertac. This opposition included a motion filed in September 1992 to enforce the 1982 RCRA Consent Decree. The parties were ultimately unable to resolve their differences regarding this motion. In June 1992 the District Court entered an order denying Hercules' motion to enforce the Consent Decree and allowed EPA to utilize CERCLA procedures to select remedies for the Vertac site.

- The United States added CERCLA Section 107, 42 U.S.C. § 9607, cost recovery claims against Hercules, Dow Chemical Company, and Uniroyal Chemical Limited of Canada (Uniroyal), in a complaint filed in March, 1992. By order of the trial court in June 1992, this complaint was administratively closed, and the claims asserted against Hercules, Dow, and Uniroyal were consolidated with the existing litigation. Other parties, including BASF AG, Standard Chlorine, and Velsicol, were added to the litigation as third-party defendants.

- Special notice letters for Remedial Design/Remedial Action (RD/RA) for the off-site areas were sent to the PRP's in August 1992. No "good faith" offers were received in response to the letter. A subsequent special notice letter was sent in December 1992 to the PRP's after EPA revised the scope of the remedial work at the off-site areas. Negotiations regarding this work did not result in an RD/RA Consent Decree.

- EPA issued a UAO to Hercules, Uniroyal, and Vertac, requiring them to implement the Remedial Design and Remedial Action for the Off-site ROD - June 1993. Only Hercules complied with the Order.

- EPA issued another UAO to Hercules, Uniroyal and Vertac, requiring them to implement the Remedial Design and Remedial Action for the Operable Unit 1 ROD - March 1994.

- In October 1993, when the United States was granted a motion for summary judgement against Hercules, Inc., holding it jointly and severally liable to the United States for past and future response costs incurred at the site. The claims made by the United States were against Hercules, Inc., Dow Chemical Company, and Uniroyal under CERCLA Section 107, 42 U.S.C. § 9607, for recovery of costs related to the Vertac site, including EPA removal costs. The claims against Dow and Uniroyal were based on tolling agreements that those companies had with Vertac, where they sent raw materials to Vertac for processing into finished product that was shipped back to them. These tolling agreements constituted arrangements for disposal pursuant to CERCLA Section 107(a)(3), 42 U.S.C. § 9607(a)(3). Prior to a liability phase trial, the United States settled its claims against Dow through a Consent Decree for \$3.5 million. Settlements were also reached with Velsicol and the United States on behalf of the Department of Defense. A jury trial was conducted against Uniroyal in November 1993.

- Although not specifically enforcement related, several separate citizens suits were filed seeking

to halt incineration of the 28,440 drums of dioxin contaminated still bottom wastes which were stored at the site. They are as follows:

After the incineration contract was finalized, but before the first trial burn, came National Toxics Campaign (NTC), et.al. v. Arkansas Department of Pollution Control and Ecology (ADPC&E), et. al., seeking to enjoin the impending trial burn. After six days of testimony, the trial court denied a preliminary injunction based on the merits. NTC subsequently dismissed its lawsuit in federal court.

Incineration opponents sued again, in State chancery court, on the morning of the same trial burn approved in federal court during the NTC litigation. This suit, Ruby Brown and Sharon Golgan v. ADPC&E, was filed in Pulaski County Chancery Court. The chancellor denied the temporary restraining order on the merits after a hearing that day.

After thousands of D-waste drums had been burned, ADPC&E's director announced that T-waste would be burned after a limited burn of T-waste so that ambient air and incinerator stack data could be evaluated for risk considerations. This announcement brought the lawsuit by the Arkansas Peace Center (APC) et al., in October 1992. During this litigation, control of the incineration passed from State to EPA control, after State funds were exhausted.

The APC litigation resulted in a preliminary injunction (the March 17, 1993, order mentioned above), a subsequent stay of that injunction by the Eighth Circuit based on both jurisdiction and the merits, and eventual dismissal due to lack of jurisdiction.

After denial of a petition for certiorari to the U.S. Supreme Court, plaintiffs filed suit again in chancery court in April 1994. That case was removed to federal court and eventually dismissed. In the dismissal order, the district court found that the lawsuit was barred by CERCLA 113(h), 42 U.S.C. § 9613(h), since the lawsuit was clearly designed to stop incineration. The District Court also found that dismissal was appropriate based on res judicata, i.e., that the same case had already been tried.

- EPA issued another UAO to Hercules, Uniroyal and Vertac, requiring them to implement the Remedial Design and Remedial Action for the Operable Unit 2 ROD - December 1996. Only Hercules complied with the Order.
- EPA issued another UAO to Hercules, Uniroyal and Vertac, requiring them to implement the Remedial Design and Remedial Action for the Operable Unit 3 ROD - December 1996. Only Hercules complied with the Order.
- EPA issued another UAO to Hercules, Uniroyal, and Vertac, requiring the Dismantlement, Decontamination and Disposal of the Hazardous Waste Incinerator - December 1996. Only Hercules complied with the Order.
- On May 21, 1997, the U.S. District Court found Uniroyal Chemical jointly and severally liable pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). *U.S. v. Vertac Chemical Corp.*, 966 F. Supp. 1491 (E.D. Ark., 1997)
- On October 23, 1998, the U. S. District Court for the Eastern District of Arkansas granted summary judgement on U. S. CERCLA cost claims against Hercules and Uniroyal, in the amount



of \$102,878,641.35, plus any additional response costs after July 31, 1998. *U. S. v. Vertac Chemical Corp.*, 33 F. Supp. 2d 769 (E.D. Ark., 1998)

- On August 9, 1999, the U.S. District Court entered final judgment against Hercules and Uniroyal for future response costs and for past costs in the amount of \$100,560,491.00.
- On September 27, 1999, Hercules filed a notice of appeal of the U.S. District Court judgment with the U.S. Court of Appeals for the Eighth Circuit. Uniroyal later joined the appeal.
- On January 21, 2000, Jeffery and Brenda Shelton sued EPA to compel performance of the site CERCLA five year review. *Shelton v. Browner* (E.D. Ark.)
- On June 12, 2000, oral argument was heard before the U.S. Court of Appeals for the Eighth Circuit on the Hercules and Uniroyal appeals. *U.S. v. Hercules* (8<sup>th</sup> Cir.).
- On October 13, 2000, the U.S. District Court for the Eastern District of Arkansas entered a consent decree between the U.S. EPA and the Sheltons requiring EPA to perform the Vertac five year review. *Shelton v. Browner* (E.D. Ark.).
- On April 10, 2001, the U.S. Court of Appeals for the Eighth Circuit reversed and remanded the CERCLA liability judgement against Hercules on the issue of divisibility of harm. The court affirmed the liability of Uniroyal, but vacated the 1999 cost and contribution judgments pending the outcome of remand. *U.S. v. Hercules, Inc.*, 247 F.3d 706 (8<sup>th</sup> Cir., 2001).
- From October 9 thru 19, 2001, and December 12 thru 13, 2001, the U.S. District Court held an evidentiary hearing on the remand of divisibility of harm in the case of Hercules.
- On June 28, 2002, the U.S. District Court granted joint motion to dismiss the Shelton case due to the completion by EPA of the five year review and all requirements of the consent decree. Administrator Whitman had earlier been substituted as defendant for former Administrator Browner. *Shelton v. Whitman* (E.D. Ark.).
- On March 31, 2005, the U.S. District Court for the Eastern District of Arkansas entered a *Memorandum Opinion and Order* in *United States v. Vertac Chemical Corp.*, No. 4:80CV00109 GH (E.D.Ark.), finding that the harm for the Vertac Superfund Site itself (involving four Site I.D. numbers) and for the Jacksonville Landfill Superfund Site was not divisible and thus the liability of defendant Hercules therefor was joint and several. The Court did find that the harm in connection with the related Rogers Road Superfund Site was distinct and divisible and the government had not proved Hercules' liability in connection with it. In its 46 page opinion, the Court reaffirmed its October 23, 1998 judgment of \$102,878,641.35 against Hercules, plus additional response costs, and reaffirmed its judgment against Uniroyal for the same costs for the Vertac Site only. Under the ruling, the Hercules judgment must be reduced by the Rogers Road costs, roughly \$4.2 million. The Court also reaffirmed its contribution/allocation judgment between Hercules and Uniroyal (which are liable for the same response costs), which assigned 2.6% of the Vertac Site liability to Uniroyal and the remainder to Hercules. The case had been reversed and remanded to the District Court by the 8th Circuit Court of Appeals in June of 2001 on the issue of divisibility of harm, as noted above.
- On April 15, 2005, the United States moved for entry of final judgment under CERCLA against Hercules and Uniroyal (now Crompton Co./Cie.) in the amounts \$119,545,922 and \$110,562,480, as well as additional response costs after January 1, 1999, plus interest. The judgments would reflect joint and several liability for the same Vertac Superfund Site response costs with prejudgment interest through March 31, 2005, and in the case of Hercules for the Jacksonville Landfill Superfund Site as well.

## **Present Status and Issues**

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- On July 26, 2001, EPA signed the first Five-Year Review report for the site following a thirty day public comment period. The report is available on the EPA website along with the public comments and the responsiveness summary. The second Five-Year Review report was completed on November 20, 2003. The next Five-Year review is scheduled for completion by November 20, 2008.

## **Benefits**

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- Remediation of Vertac Superfund Site reduced the environmental risks for the citizens of Jacksonville, a city with approximately 30,000 residents.
- About 10,000 cubic yards of highly contaminated waste were treated by incineration. Approximately 25,000 cubic yards of debris resulting from demolition of buildings and equipment have been disposed in the on-site RCRA Subtitle C landfill (consolidation/containment unit).
- Approximately 20,000 cubic yards of contaminated soil have been disposed (contained) in the on-site RCRA landfill.
- The numerous cleanup actions performed to date have reduced the further spread of contaminants and the threat of exposure to dioxin wastes from the tanks and drums on site, as well as the threat of dioxin exposure from contaminated buildings and debris, soil and groundwater.
- The Vertac, Inc., site cleanup activities are 100% complete; therefore, the threats posed by dioxin contaminated media have been eliminated.
- Almost half of the Vertac site (the north half) will be available for beneficial use.